

Appl. No. 09/701,777
Amdt. dated October 7, 2003
Reply to Office action of February 5, 2003

In the Claims:

Claims 1 and 7 are amended herein. New claims 13 and 14 are added. The remaining claims are not amended in this response.

1. (currently amended) An ink jet recording method for preventing or reducing in splash events which receives a command and data which indicate a drawing of a thick line or a filled-in area, analyzes the command and the data by an interpreter, converts vector data of the thick line or the filled-in area into raster data based on a specified data pattern which contains a predetermined matrix of ON and/or OFF dots, after the analysis, and, based on the raster data, ejects ink droplets while moving a recording head over a recording medium with a plurality of ink ejection nozzles arranged thereon, said method comprising the steps of:

before converting the vector data to the raster data, checking by said interpreter whether the specified data pattern indicates solid-drawing in the thick line or the filled-in area for which the drawing is indicated;

if the data pattern specified to a particular thick line or filled-in area indicates solid-drawing, changing the data pattern for that particular thick line or filled-in area to a data pattern of a lower-density for preventing an ink splash during printing; and

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converting the vector data of the thick line or the filled-in area into raster data based on the vector data and the data pattern when ejecting ink droplets according to the raster data;

wherein said recording method is performed while operating said recording head in a single pass recording mode.

2. (original) The ink jet recording method according to claim 1 wherein said interpreter changes the data pattern by using a predetermined mask pattern.

3. (original) The ink jet recording method according to claim 2 wherein one mask pattern is selected from a plurality of predetermined mask patterns according to a type of the recording medium.

4. (previously amended) The ink jet recording method according to claim 1 wherein if a thickness of a given thick line is smaller than a predetermined thickness no change is made in the data pattern for the given thick line even if the data pattern indicates solid-drawing.

5. (original) The ink jet recording method according to claim 1 wherein the data pattern is changed at least for black ink.

6. (previously amended) The ink jet recording method according to claim 1 wherein said single pass recording mode

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comprises a method in which one band of an image is recorded in one head movement of the recording head, said one band corresponding to a width of a recording portion of said recording head.

7. (currently amended) An ink jet recording device adapted for reducing or preventing splash events comprising:

an interpreter for analyzing a command and data which indicate a drawing of a thick line or a filled-in area;

means for converting vector data of the thick line or the filled-in area into raster data based on the vector data and a specified data pattern which contains a predetermined matrix of ON and/or OFF dots, after the analysis by the interpreter; and

a recording head for ejecting ink droplets, based on the raster data, while moving over a recording medium with a plurality of ink ejection nozzles arranged thereon,

wherein said interpreter includes a pattern changing means for checking whether the data pattern indicates solid-drawing in the thick line or the filled-in area for which the drawing is indicated and, if the solid-drawing is indicated, changing the data pattern for the thick line or filled-in area to a data pattern of a lower-density,

thereby reducing or preventing ink splash events.

8. (original) The ink jet recording device according to claim 7 wherein said pattern changing means changes the data

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pattern by using a predetermined mask table which stores therein a predetermined mask pattern.

9. (original) The ink jet recording device according to claim 8 wherein said predetermined mask table contains a plurality of mask patterns each corresponding to a type of the recording medium and wherein said pattern changing means selects one of the mask patterns according to the type of the recording medium used.

10. (original) The ink jet recording device according to claim 7, further comprising means for checking a thickness of the thick line and means for preventing the change of the data pattern when the thickness of the thick line is smaller than a predetermined thickness.

11. (original) The ink jet recording device according to claim 7 wherein said pattern changing means changes the data pattern at least for black ink.

12. (previously amended) The ink jet recording device according to claim 7 wherein said single pass recording mode comprises a method in which one band of an image is recorded in one band movement of the recording head, said one band corresponding to a width of a recording portion of said recording head.

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13. (New) The ink jet recording device according to claim 7 wherein said reducing or preventing ink splash events consists of reducing or preventing ink splash events for a black ink.

14. (New) The ink jet recording method according to claim 1 wherein said method is performed with respect to a black ink.